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10/519,214	12/27/2004	Eberhard Ammermann	5000-0110PUS1	7324
2292 7590 06/27/2008 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER				
QAZI, SABIHA NAIM				
ART UNIT		PAPER NUMBER		
1612				
NOTIFICATION DATE		DELIVERY MODE		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/519,214

Applicant(s)

AMMERMANN ET AL.

Examiner

Sabiha Qazi

Art Unit

1612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/25/2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Final Office Action

Claims 1 and 3-8 are pending. No claim is allowed at this time. Amendments are entered.

Summary of this Office Action dated June 19, 2008

1. 35 USC § 103(a) Rejection
2. Data in Specification and Declaration
3. Response to Remarks
4. Conclusion
5. Communication

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(c), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1 and 3-8 rejected under 35 U.S.C. 103 (a) as being unpatentable over SCHOOR (US 2,976,296), XP-002274262 anonymously disclosed "combination of microbicides for improved plant protection in pomefruit" (IDS reference filed on Jan. 13, 2006), BOSSELAERS et al. (6,174,911), and HOLMWOOD et al. (EPA 040345).

US '296 teaches that 2,3-dicyano-1,4-dithia-anthra-quinone (dithianon) was well tolerated by plants. The compound contains substantially higher fungicidal activity than the best fungicides available in the market. For purpose of testing the fungicidal activity, very different fungi were used such as *Rhizoctonia solani*, *Yenturia inaequalis* and *Alternaria Spec*. The fungicidal activity of the compound was found on the average about twice as high as that of the best available commercial products such as TMTD, Captan and Ziram. It further teaches that **the compounds can be applied simultaneously with other known pesticides**. See formula II and lines 38-63 in column 1 and lines 10-24 in column 2.

XP reference teaches the combination of 1, 2, 4-triazolyl derivative (compound A) with one or more commercially marketed fungicides. The reference further teaches that addition of such commercial fungicides improves fruit quality by reduction or prevention of fruit-skin russetting. Such fungicidal mixtures achieve in many cases synergistically increase activities.

List of compounds include **dithianon**. See the abstract. This compound is labeled as formula I in claim 1 of the present invention.

US '911 teach **epoxiconazole** (BASF 480) as antifungal compound. See lines 64-67 in column 1 and compound of formula II in column 2. This compound is labeled II-2 in claim 1 of the present invention.

EPA '345 teaches **tebuconazole** as fungicide; see the abstract and formula I-4 on page 43. This compound is labeled II-4 in claim 1 of the present invention.

Instant claims differ from the cited references in claiming a synergistic combination of dithianon (I) and tebuconazole (II-2) or epoxiconazole (II-4) in claiming combination in 16:1 to 4:1 ratio.

Since the synergism has not been shown for the ratios 16:1 to 4:1, combination of known fungicides for the same purpose has been considered obvious because synergism cannot be predicted for all the ratios as has been claimed. It would have been obvious to one skilled in the art to prepare additional beneficial compositions by combining dithianon with epoxiconazole and/or tebuconazole which are known to be excellent fungicides as taught by the prior art. It is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose in order to form a third composition that is to be used for the very same purpose; the idea of combining them flows logically from their having been individually taught in the prior art. See *In re Kerkhoven*, 205 USPQ 1069.

No criticality and/or unexpected results are noted. See KSR Supreme Court of United States Decision (Decided April 30, 2007, KSR INTERNATIONAL CO. v. TELEFLEX INC. et al. No. 04-1350) where it states that (1) "However, the issue is not whether a person skilled in the art had the motivation to combine the electronic control with an adjustable pedal assembly, but whether a person skilled in the art had the motivation to attach the electronic control to the support bracket of pedal assembly". (2) "the results of ordinary innovation are not the subject of exclusive rights under the patent laws". In the present case the composition as claimed would have been obvious to one skilled in the art at the time the invention was made in absence of showing the synergism of all the claimed ratios.

In the light of the forgoing discussion, the Examiner's ultimate legal conclusion is that the subject matter defined by the instant claims would have been obvious within the meaning of 35 U.S.C. 103(a).

Data in Specification and Declaration

Declaration filed by Dr Egon Haden on 12/20/2007 has been fully considered but was not found persuasive because the difference between observed and expected are very small and are not considered synergistic. The combinations of active fungicides would have been obvious for the reasons cited above. Specification discloses efficacy in % of the untreated control (table C) for individual active compounds examples 24, 26 and 27 on page 11. Efficacy of compound I, example 24 (dithianon) is zero at all tested concentrations i.e. 4, 1 and 0.25.

Combination of dithianon and epoxiconazole (I + II-2), examples 33-36, on pages 11 and 12

EXAMPLES 33 and 34

In example 33 calculated efficacies as disclosed is 63 and observed was 75, the difference of 8 is not synergistic.

In example 33 combinations is as follows:

Efficacy of individual Dithianon at conc. 4, 1 and 0.25 ppm is 0

Efficacy of individual Dithianon (I) at concentration 0.25 ppm= 0

Epoxiconazole (II-2) at concentration 1 ppm = 75

Combination of I + II-2 = 75 is the observed efficacy which is the same as individual epoxiconazole. There is no synergism

EXAMPLE 34

Same issue is with example 34 on page 11; calculated efficacy is 63 and observed 75, difference of 8, which is not considered synergistic.

EXAMPLES 35 and 36

In examples 35 on page 12 calculated 63 and observed 82, example 36 calculated 75, observed 88 which is not synergistic because the efficacy of individual II-2 is 75, observed in combination is 82 and 88 which is not very different and not synergistic.

Combination of dithianon and tebuconazole (I + II-4), examples 37-41 on page 12

Efficacy of individual Dithianon at conc. 4, 1 and 0.25 is 0

Efficacy Dithianon (I) at concentration 1 ppm= 0 (anything multiplied by zero is zero, so $4 \times 4 = 16$ the efficacy should be zero.

Tebuconazole (II-4) at concentration 1 ppm = 75

Example 37 on page 12, combination of I + II-4 = 75 is the observed efficacy which is the same as individual epoxiconazole. There is no synergism.

Same applies on other examples.

In conclusion all the data disclosed is for very limited ratios and all of them are not synergistic. Claims are drawn to large synergistic ratios which cannot be predicted and the data does not commensurate with scope of claims.

Response to Remarks

Examiner thanks for including the common names of the compounds of formula I, II-2 and II-4 on her request.

Applicant's arguments were fully considered but are not found persuasive. Applicant is requested to see example 33 calculated efficacies as disclosed is 63 and observed was 75, the difference of 8 is not synergistic. See example 34 on page 11, calculated efficacy is 63 and observed 75, difference of 8, which is not considered synergistic.

In the arguments applicants are missing one very important issue which has been mentioned in the office action that the claimed subject matter that synergism has not been shown for the

ratios 16:1 to 4:1, it cannot be predicted. The combination of known fungicides for the same purpose has been considered obvious because the compounds are known, synergism cannot be predicted for all the ratios as has been claimed. Furthermore synergism has also not been observed for example the combination of dithianon and tebuconazole (I + II-4), examples 37-41 on page 12, the efficacy of individual Dithianon at conc. 4. 1 and 0.25 is 0; the efficacy of Dithianon (I) at concentration 1 ppm = 0. Tebuconazole (II-4) at concentration 1 ppm = 75. See example 37 on page 12, combination of I + II-4 = 75 is the observed efficacy which is the same as individual epoxiconazole. There is no synergism. Same applies on other examples.

Even if it is assumed that the synergism has been shown for two combinations as applicant argue, claimed subject matter does not commensurate with the scope of the claims. It is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose in order to form a third composition that is to be used for the very same purpose; the idea of combining them flows logically from their having been individually taught in the prior art. In re Kerkhoven, 205 USPO 1069.

See Ex parte Quadranti where it was held that if two or more herbicides functioned by somewhat different biological mechanisms, their combined use could clearly be expected to be more efficient than the use of merely a larger amount of any one of the individual herbicides since multiple biological pathways would be affected at the same time.

It is also known that, in any population of plants as with any organisms, some will be more resistant to a particular biocide than others. The statistical probability of a large number of plants having higher than usual resistance to all of the components of any particular combination of herbicides, however, is not great. "Use of materials in combination, each of which is known to function for intended purpose, is generally held to be *prima facie* obvious, and in instant case, use of combination of herbicides is so notoriously well known as to be capable of being taken by official notice; generalizations such as Colby formula are not particularly useful in determining whether synergism has been demonstrated, since formula inherently results in expectation of less than additive effect for combination of herbicides, since there is no evidence that such approach is considered valid by significant number of ordinarily skilled workers in relevant area of technology, and since it could be reasonably argued that in most cases, additive or better than additive results could be expected for combination of herbicides."

"There is no single, appropriate test for determining whether synergism has been demonstrated for chemical combination; rather, facts shown in each case must be analyzed to determine whether chosen method has clearly and convincingly demonstrated existence of synergism or unobvious result". "Assuming *arguendo* that the differences in values presented are statistically significant, there is no evidence that they represent a true, practical advantage. In *re Freeman*, 474 F.2d 1318, 177 USPQ 139 (CCPA 1973); In *re Klosak* , 455 F.2d 1077, 173 USPQ 14 (CCPA 1972); In *re D'Ancicco*, 439 F.2d 1244, 169 USPQ 303 (CCPA 1971). Also, prescinding from the Colby formula test, which as we have already indicated is at best controversial and in our view probably invalid, there is no evidence that the differences are

unexpected. In re Merck, 800 F.2d 1091, 231 USPQ 375 (Fed.Cir. 1986); In re Longi , 759 F.2d 887, 225 USPQ 645 (Fed.Cir. 1985); In re Freeman, supra” .

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sabiha Qazi whose telephone number is (571) 272-0622. The examiner can normally be reached on any business day except Wednesday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Krass Frederick can be reached on (571) 272-0580. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sabiha Qazi/

Primary Examiner, Art Unit 1612